

CLAIMS:

1. A method of recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam, a mark being written by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase,
5 characterized in that, when a mark is recorded by a sequence of two or more write pulses, at least one of the write pulses in said sequence of two or more write pulses other than the first write pulse in said sequence consists of n portions, n being an integer number larger than 1, the i -th portion having an i -th write power level, i being an integer number in the range between 1 and n , the i -th portion preceding the $(i+1)$ -th portion, and in that the i -th write
10 power level is lower than the $(i+1)$ -th write power level.
2. A method as claimed in claim 1, wherein the first write pulse in the sequence of two or more write pulses consists of n portions, n being an integer number larger than 1, the i -th portion having an i -th write power level, i being an integer number in the range
15 between 1 and n , the i -th portion preceding the $(i+1)$ -th portion, and in that the i -th write power level is lower than the $(i+1)$ -th write power level.
3. A method as claimed in claim 1 or 2, wherein at least one of the write pulses in said sequence of two or more write pulses consists of n portions of substantially the same
20 duration.
4. A method as claimed in claim 1 or 2, wherein the information layer is irradiated in between the sequences of one or more write pulses by a radiation beam having an erase power level, the erase power level being higher than the first write power level in the
25 first portion and being lower than the n -th write power level in the last portion.
5. A method of recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam, a mark being written by a sequence of one or more write pulses, said information layer having

a phase reversibly changeable between a crystalline phase and an amorphous phase, characterized in that at least one of the write pulses in said sequence of one or more write pulses comprises a front portion having a write power level which is a function of time, and in that said write power level continuously increases.

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6. A method as claimed in claim 5, wherein the at least one of said at least one of the write pulses in said sequence of one or more write pulses also comprises a rear portion having a constant write power level, which constant write power level is higher than or equal to the highest write power level in the front portion.

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7. A method as claimed in claim 5, wherein the information layer is irradiated in between the sequences of one or more write pulses by a radiation beam having an erase power level, the erase power level being higher than the lowest write power level in the front portion and being lower than the highest write power level in the front portion.

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8. A recording apparatus for recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam, each mark being written by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, the apparatus comprising a radiation source for providing the radiation beam and a control unit operative for controlling the power of the radiation beam and for providing the sequences of write pulses for recording the marks, characterized in that the control unit is operative for controlling the power of the radiation beam such that when a mark is recorded by a sequence of two or more write pulses, at least one of the write pulses in said sequence of

20 two or more write pulses other than the first write pulse in the sequence consists of n portions, n being an integer number larger than 1, the i -th portion having an i -th write power level, i being an integer number in the range between 1 and n , the i -th portion preceding the $(i+1)$ -th portion, and the i -th write power level being lower than the $(i+1)$ -th write power level.

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9. A recording apparatus as claimed in claim 8, wherein the control unit is operative for controlling the power of the radiation beam such that the first write pulse in the sequence of two or more write pulses consists of n portions, n being an integer number larger than 1, the i -th portion having an i -th write power level, i being an integer number in the

range between 1 and n , the i -th portion preceding the $(i+1)$ -th portion, and the i -th write power level being lower than the $(i+1)$ -th write power level.

10. A recording apparatus for recording marks representing data in an information
5 layer of a record carrier by irradiating the information layer by means of a pulsed radiation
beam, each mark being written by a sequence of one or more write pulses, said information
layer having a phase reversibly changeable between a crystalline phase and an amorphous
phase, the device comprising a radiation source for providing the radiation beam and a
control unit operative for controlling the power of the radiation beam and for providing the
10 sequences of write pulses for recording the marks, characterized in that the control unit is
operative for controlling the power of the radiation beam such that at least one of the write
pulses in said sequence of one or more write pulses comprises a front portion having a write
power level which is a function of time and which write power level continuously increases.